

t41_comseq_2 (TMNt-
Gpmfni2JptkYFQQtR2yH9FhHUED6CnvB)

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Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k2_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_comseq_2 : \iota \Rightarrow o$ be given. Let $v2_relat_1 : \iota \Rightarrow o$ be given. Let $k3_comseq_2 : \iota \Rightarrow \iota$ be given. Let $k5_complex1 : \iota$ be given. Let $k2_comseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k51_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_complex1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_complex1 : \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Let $k50_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k2_numbers) \wedge \\
 & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\
 & (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers k2_numbers) \wedge \\
 & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\
 & (((v2_comseq_2 X0) \wedge ((v2_comseq_2 X1) \wedge (v2_relat_1 X1))) \Rightarrow ((k3_comseq_2 \\
 & X1 = k5_complex1) \vee (k3_comseq_2 (k51_valued_1 k5_numbers k2_numbers \\
 & k2_numbers X0 X1) = k13_complex1 (k3_comseq_2 X0) (k3_comseq_2 \\
 & X1))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k2_numbers) \wedge \\
 & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\
 & (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers k2_numbers) \wedge \\
 & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\
 & (((v2_comseq_2 X0) \wedge ((v2_comseq_2 X1) \wedge (v2_relat_1 X1))) \Rightarrow ((k3_comseq_2 \\
 & X1 = k5_complex1) \vee (v2_comseq_2 (k51_valued_1 k5_numbers k2_numbers \\
 & k2_numbers X0 X1))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow (k15_complex1 \\ (k13_complex1 X0 X1) = k13_complex1 (k15_complex1 X0) (k15_complex1 \\ X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k2_numbers) \wedge \\ (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\ ((v2_comseq_2 X0) \Rightarrow (k3_comseq_2 (k2_comseq_2 k5_numbers X0) = \\ k15_complex1 (k3_comseq_2 X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v1_membered \\ X1) \wedge ((v1_membered X2) \wedge (((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X1)))))) \wedge ((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X2)))))) \Rightarrow (k51_valued_1 X0 X1 X2 X3 X4 = k50_valued_1 \\ X3 X4) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((\neg v1_xboole_0 \\ X1) \wedge (v1_membered X1)) \wedge (((\neg v1_xboole_0 X2) \wedge (v1_membered X2)) \wedge \\ (((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X1)))))) \wedge ((v1_funct_1 X4) \wedge ((v1_funct_2 X4 X0 X2) \wedge \\ (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X2)))))))) \Rightarrow ((v1_funct_1 \\ (k50_valued_1 X3 X4)) \wedge (v1_partfun1 (k50_valued_1 X3 X4) X0)) \end{aligned} \quad (6)$$

Assume the following.

$$\neg v1_xboole_0 k2_numbers \quad (7)$$

Assume the following.

$$v1_membered k2_numbers \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v1_membered \\ X1) \wedge ((v1_membered X2) \wedge (((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X1)))))) \wedge ((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X2)))))) \Rightarrow ((v1_funct_1 (k51_valued_1 X0 X1 X2 \\ X3 X4)) \wedge (m1_subset_1 (k51_valued_1 X0 X1 X2 X3 X4) (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 k2_numbers)))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k2_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\ & (m1_subset_1 (k3_comseq_2 X0) k2_numbers) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k2_numbers) \Rightarrow (v1_xcmplx_0 X0) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))) \Rightarrow ((v1_partfun1 X2 X0) \Rightarrow (v1_funct_2 X2 X0 X1)) \end{aligned} \quad (12)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k2_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\ & (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers k2_numbers) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\ & (((v2_comseq_2 X0) \wedge ((v2_comseq_2 X1) \wedge (v2_relat_1 X1))) \Rightarrow ((k3_comseq_2 \\ & X1 = k5_complex1) \vee (k3_comseq_2 (k2_comseq_2 k5_numbers (k51_valued_1 \\ & k5_numbers k2_numbers k2_numbers X0 X1)) = k13_complex1 (k15_complex1 \\ & (k3_comseq_2 X0)) (k15_complex1 (k3_comseq_2 X1)))))) \end{aligned}$$